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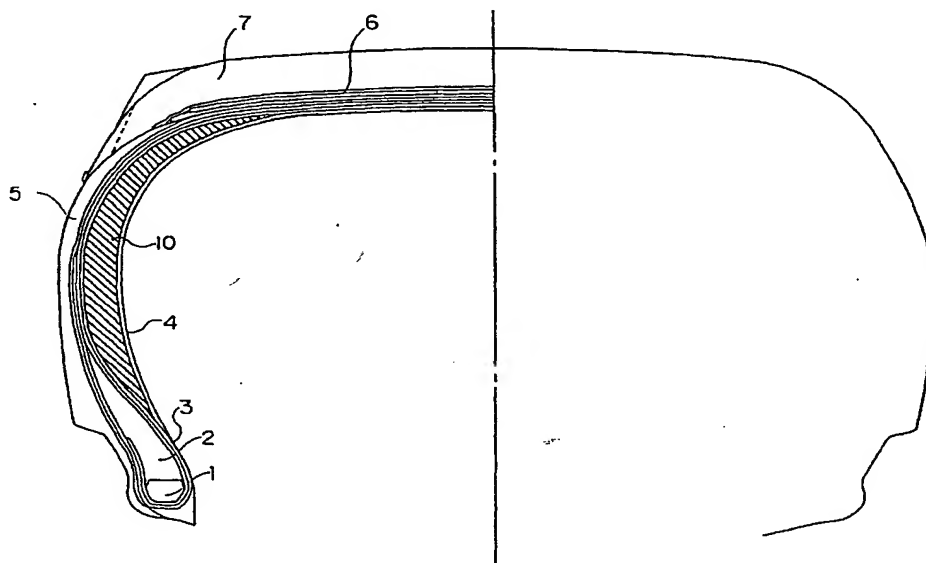
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(54) Pneumatic run-flat tire

(57) A pneumatic radial tire which can run in a flat tire condition comprising: a side reinforcing layer disposed on a carcass layer of the side region and having a generally crescent sectional shape; and a belt layer composed of a belt ply in which metal wire bundles (each bundle containing untwined plural metal wires arranged in parallel) are arranged planarly in parallel to each other and being spaced from each other with a dis-

tance therebetween in the tire widthwise direction, and an inner liner has a thickness of 0.1 to 0.3 mm. The light run-flat tire can run to a safe place while supporting the load of the vehicle even if the tire is punctured so that the internal pressure thereof is lowered or even becomes zero, and can effect a comfortable ride and a low rolling resistance when it is filled with a normal internal pressure.

FIG. 3**EP 1 193 084 A3**



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EUROPEAN SEARCH REPORT

Application Number
EP 01 30 8238

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
Y	PATENT ABSTRACTS OF JAPAN vol. 2000, no. 02, 29 February 2000 (2000-02-29) -& JP 11 310016 A (BRIDGESTONE CORP), 9 November 1999 (1999-11-09) * abstract * * paragraph '0013! *	1,5-10	B60C9/20 B60C17/00
Y	EP 0 937 588 A (GOODYEAR TIRE & RUBBER) 25 August 1999 (1999-08-25) * paragraphs '0016!-'0020!,'0024!,'0026! * * column 7, line 14 - line 25 * * column 8, line 21 - line 27 * * figure 5 *	1,5-10	
A	US 5 529 105 A (HAYASHI KAZUO ET AL) 25 June 1996 (1996-06-25) * column 3, line 3 - line 8 * * column 4, line 60 - line 62 * * figure 1 *	1-4,12	
A	US 4 928 741 A (RYE GROVER W ET AL) 29 May 1990 (1990-05-29) * column 3, line 27 - line 42 *	1	TECHNICAL FIELDS SEARCHED (Int.Cl.7) B60C
A	PATENT ABSTRACTS OF JAPAN vol. 017, no. 114 (M-1377). 9 March 1993 (1993-03-09) & JP 04 300701 A (SUMITOMO RUBBER IND LTD), 23 October 1992 (1992-10-23) * abstract *	1	
A	WO 98 56598 A (MICHELIN RECH TECH ;HERBERTS GMBH (DE); TANNERT KLAUS (DE); WARD B) 17 December 1998 (1998-12-17) * page 19 *	1,11	
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 17 January 2003	Examiner Bibollet-Ruche, D
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background C : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earliest patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

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**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 01 30 8238

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

17-01-2003

Patent document cited in search report		Publication date	Patent family member(s)		Publication date
JP 11310016	A	09-11-1999	NONE		
EP 0937588	A	25-08-1999	BR	9900564 A	13-03-2001
			EP	0937588 A2	25-08-1999
			JP	11291710 A	26-10-1999
US 5529105	A	25-06-1996	NONE		
US 4928741	A	29-05-1990	CA	1321279 A1	10-08-1993
JP 04300701	A	23-10-1992	JP	2089366 C	02-09-1996
			JP	8000484 B	10-01-1996
WO 9856598	A	17-12-1998	AU	7960898 A	30-12-1998
			CN	1259094 T	05-07-2000
			EP	0991530 A1	12-04-2000
			JP	2002504174 T	05-02-2002
			US	6087016 A	11-07-2000
			WO	9856598 A1	17-12-1998
			US	6232389 B1	15-05-2001

EPC FORM P0438

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82